REMARKS

Claims 27-30, 32 and 36 stand objected to for various informalities. Applicants have amended these claims to correct the informalities noted by the Examiner. Accordingly, withdrawal of the objections to these claims is respectfully requested.

Claims 1, 7-10, and 12-14 stand rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 5,644,415 to Aoki et al. in view of United States Patent No. 5,936,693 to Yoshida et al. and further in view of United States Patent Application Publication No. 2003/0058374 to Takeda et al. Claim 14 has been cancelled, without prejudice, thereby rendering this rejection moot with respect to this claim. However, with respect to Claims 1, 7-10, 12 and 13, Applicants respectfully traverse this rejection.

Applicants respectfully submit that the Examiner's proposed combination relates to a TN (twisted nematic) liquid crustal display, in which the liquid crystal has a *positive* dielectric anisotropy, while the present invention of independent Claim 1 relates to a VA (vertical alignment) liquid crystal display, in which the liquid crystal has a *negative* dielectric anisotropy. Briefly, in a TN liquid crystal display, which uses a liquid crystal with positive dielectric anisotropy, the liquid crystal molecules are initially aligned to be horizontal (parallel) with respect to the substrates when no voltage is applied. In contrast, in a VA liquid crystal display, which uses a liquid crystal with negative dielectric anisotropy, the liquid crystal molecules are initially aligned to be vertical (perpendicular) with respect to the substrates when no voltage is applied. Accordingly, the liquid crystal molecules of a TN-type display react in exactly the opposite manner than those in a VA-type display when a

voltage is applied (*i.e.*, in the TN-type, the molecules are horizontal when no voltage is applied and move to vertical with a voltage, while in the VA-type, the molecules are vertical when no voltage is applied and move to horizontal with a voltage).

More specifically, Claim 1 now recites that the liquid crystal has "negative dielectric constant anisotropy whose initial alignment is vertical to a surface of the substrates when no voltage is applied between the pixel and common electrodes" (emphasis added), *i.e.*, the display is a VA (vertical alignment) type. In contrast, the primary reference (Aoki et al.) recites that the liquid crystal has positive dielectric anisotropy in column 6, lines 34-35. Thus, the Aoki et al. reference relates to a TN-type (or STN "super twisted nematic") display. *See also*, Aoki et al., col. 5, lines 47-50. Similarly, the secondary reference (Yoshida et al.) also relates to a TN display (col. 5, line 20), which uses a liquid crystal with positive dielectric anisotropy (col. 6, lines 16-17). Further, although the tertiary reference (Takeda et al.) relates to a VA-type of display (or, more specifically to an "MVA-type" -- multi-domain vertical alignment), which uses a liquid crystal with negative dielectric anisotropy, there is no reason to change the entire manner of operation of the devices of Aoki et al. and Yoshida et al. to operate in the completely opposite manner by replacing the liquid crystal with positive dielectric anisotropy with a liquid crystal with negative dielectric anisotropy. Accordingly, because the proposed combination lacks the claimed liquid crystal that has "negative dielectric constant anisotropy whose initial alignment is vertical to a surface of the substrates when no voltage is applied between the pixel and common electrodes," as defined in Claim 1,

Applicants respectfully request the withdrawal of this §103 rejection of independent Claim 1 and associated dependent Claims 7-10, 12 and 13.

Claims 2-5 stand rejected under 35 U.S.C. §103 as being unpatentable over Aoki et al. in view of Yoshida et al. and Takeda et al. and further in view of United States Patent Application Publication No. 2002/0030780 to Nishida et al. Applicants respectfully traverse this rejection.

Claims 2-5 all depend from independent Claim 1, and therefore include all of the features of Claim 1, plus additional features. Accordingly, Applicants respectfully request that this §103 rejection of dependent Claims 2-5 be withdrawn considering the above remarks directed to independent Claim 1 and also because the Nishida et al. reference, which also relates to a TN-type display, does not remedy the deficiencies noted above.

Further, Applicants separately traverse the rejection of dependent Claim 4 because the Examiner has not pointed out where the cited references disclose or suggest, *inter alia*, the claimed chromaticity relationship "chromaticity (x0, y0) of an incident light source which has been transmitted or reflected by the liquid crystal display panel and chromaticity (x1, y1) of display of white satisfy a relationship expressed by: $((x0-x1)^2+(y0-y1)^2)^{1/2} < 0.1$ when no polarizer is provided."

Finally, Applicants separately traverse the rejection of dependent Claims 4 and 5 because the Nishida et al. reference teaches that the thickness of the liquid crystal layers should be varied, depending on the color filter used (*see, e.g.*, Figure 13a, paragraph [0136]). In contrast, Claims 4 and 5 each clearly recite that "a cell thickness d of the pixel region is

substantially constant regardless of the center transmission wavelengths λk." Moreover, the Examiner's rationale for adding Nishida et al. to the combination (obtaining a constant value for d/λ, regardless of the wavelength (λ)) requires the cell thickness (d) to be varied. Otherwise, equation 10 of Nishida et al. ($d_R/\lambda_R = d_G/\lambda_G = d_B/\lambda_B$) would not be true because when the wavelengths (λ) vary, the cell thicknesses (d) need to be varied also, if this equation is to be satisfied. Thus, for this additional reason, Applicants respectfully request the withdrawal of this §103 rejection of dependent Claims 4 and 5.

Claim 15 stands rejected under 35 U.S.C. §103 as being unpatentable over Aoki et al. in view of Yoshida et al. and Takeda et al. and further in view of United States Patent Application Publication No. 2002/0075436 to Kubo et al. Applicants respectfully traverse this rejection.

Claim 15 depends, indirectly, from independent Claim 1, and therefore includes all of the features of Claim 1, plus additional features. Accordingly, Applicants respectfully request that this §103 rejection of dependent Claim 15 be withdrawn considering the above remarks directed to independent Claim 1 and also because the Kubo et al. reference does not remedy the deficiencies noted above.

Claims 6, 37 and 38 stand rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 6,466,280 to Park et al. in view of United States Patent No. 6,452,654 to Kubo et al. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the cited references fail to disclose or suggest all of the features defined in independent Claim 6. More specifically, the citied

references fail to disclose or suggest a liquid crystal display that includes, *inter alia*, a pixel region with a low effective voltage area and another area with a higher voltage, where the voltages at issue are, respectively, "applied by the pixel and the common electrodes" or "applied between the pixel and common electrodes," as recited in independent Claim 6.

In contrast, as can be seen in Figure 5D of Park et al., in area 72, which is the area identified by the Examiner as corresponding to the claimed low effective voltage area, the voltage is applied between pixel electrode 70 and another electrode (such as a common electrode), while in another area with a higher effective voltage, the voltage is applied between reflective electrode 68 and another electrode (such as a common electrode). Accordingly, the pair of electrodes that make up the low effective voltage area (electrode 70 and a common electrode) are not the same as the pair of electrodes that make up the higher effective voltage area (electrode 68 and a common electrode). Such a configuration does not satisfy Claim 6, which states that the voltages applied at the low effective voltage area and the "another area" are both applied between the same pair of electrodes, (*i.e.*, between the pixel and common electrodes).

Further, the Kubo et al. reference does not remedy this deficiency, nor was it relied upon as such.

Accordingly, for at least this reason, Applicants respectfully request the withdrawal of this §103 rejection of independent Claim 6 and associated dependent Claims 37 and 38.

Claims 27-30 stand rejected under 35 U.S.C. §103 as being unpatentable over Park et al. and Kubo et al. and further in view of Nishida et al. Claim 31 stands rejected under 35 U.S.C. §103 as being unpatentable over Park et al. and Kubo et al. and further in view of Aoki et al. Claim 32 stands rejected under 35 U.S.C. §103 as being unpatentable over Park et al. and Kubo et al. and further in view of United States Patent No. 6,909,479 to Iijama. Claims 33-36 stand rejected under 35 U.S.C. §103 as being unpatentable over Park et al. and Kubo et al. and further in view of United States Patent No. 7,113,238 to Okumura. Claim 39 stands rejected under 35 U.S.C. §103 as being unpatentable over Park et al. and Kubo et al. and further in view of United States Patent Application Publication No. 2002/0075436 to Kubo et al. (hereinafter: Kubo '436). Applicants respectfully traverse these rejections.

Claims 27-36 and 39 all depend, directly or indirectly, from independent Claim 6, and therefore include all of the features of Claim 6, plus additional features. Accordingly, Applicants respectfully request that these §103 rejections of dependent Claims 27-36 and 39 be withdrawn considering the above remarks directed to independent Claim 6, and also because the additionally cited references do not remedy the deficiencies noted above.

Further, Applicants respectfully submit that these rejections of dependent Claims 29 and 30 should also be withdrawn for the same reasons discussed above with regard to dependent Claims 4 and 5.

For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned attorney.

Respectfully submitted,

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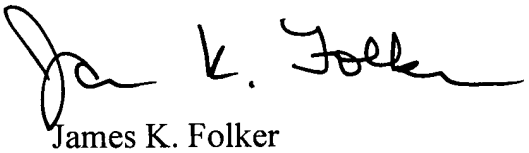
By 

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